

**Notice of Allowability**

Application No.

10/023,365

Examiner

Edna Wong

Applicant(s)

UMEMOTO, TERUO

Art Unit

1753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment dated May 19, 2004.
2. ☒ The allowed claim(s) is/are 1-26.
3. ☒ The drawings filed on 14 December 2001 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
  1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

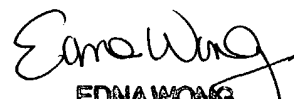
Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

  
**EDNA WONG**  
**PRIMARY EXAMINER**

***EXAMINER'S AMENDMENT***

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

The application has been amended as follows:

**IN THE ABSTRACT**

page 35, line 8, the word "fluorine" has been has been deleted and replaced with the word -- fluorene --.

page 35, line 11, the word "poly(fluorine)" has been has been deleted and replaced with the word -- poly(fluorene) --.

**IN THE CLAIMS**

Claims **27-32** have been cancelled.

This application is in condition for allowance except for the presence of claims 27 to 32 non-elected without traverse. Accordingly, claims 27-32 been cancelled.

Claim 1, line 8, the words -- comprising an ester, an electrolyte and -- have been inserted after the word "mixture".

Claim 1, line 9, the words “ , and an electrolytic mixture comprising an ester and an electrolyte” have been deleted.

Claim 3, lines 2-4, “LiPF<sub>6</sub>, NaPF<sub>6</sub>, KPF<sub>6</sub>, LiBF<sub>4</sub>, KBF<sub>4</sub>, (CH<sub>3</sub>)<sub>4</sub>NPF<sub>6</sub>, (C<sub>2</sub>H<sub>5</sub>)<sub>4</sub>NPF<sub>6</sub>, (C<sub>2</sub>H<sub>5</sub>)<sub>4</sub>NBF<sub>4</sub>” have been deleted and replaced with -- LiPF<sub>6</sub>, NaPF<sub>6</sub>, KPF<sub>6</sub>, LiBF<sub>4</sub>, KBF<sub>4</sub>, (CH<sub>3</sub>)<sub>4</sub>NPF<sub>6</sub>, (C<sub>2</sub>H<sub>5</sub>)<sub>4</sub>NPF<sub>6</sub>, (C<sub>2</sub>H<sub>5</sub>)<sub>4</sub>NBF<sub>4</sub> --.

Claim 7, line 2, the word “tetrahydrofuan” has been deleted and replaced with the word -- tetrahydrofuran --.

Claim 10, line 2, “.beta.-propiolactone, .gamma.-butyrolactone, .delta.-valerolactone, .epsilon.-caprolactone” have been deleted and replaced with -- β-propiolactone, γ-butyrolactone, δ-valerolactone, ε-caprolactone --.

Claim 11, line 2, the words “ethylene, carbonate” have been deleted and replaced with the words -- ethylene carbonate --.

Claim 11, line 2, the word “butylenes” has been deleted and replaced with the word -- butylene --.

Claim 16, line 2, "PbO.sub.2" has been deleted and replaced with -- PbO<sub>2</sub> --.

Claim 16, line 3, "PbO.sub.2" has been deleted and replaced with -- PbO<sub>2</sub> --.

Claim 21, line 3, the word "polycyclopenta[def]phenanthren4-one)" has been deleted and replaced with the word -- polycyclopenta[def]phenanthren-4-one) --.

Claim 21, lines 4-5, the word "4H-cyclopenta[def]phenanthrene" has been deleted and replaced with the word -- 4*H*-cyclopenta[def]phenanthrene --.

Claim 22, lines 2-3, the word "poly(8H-cyclopenta[def]fluoren-4-one)" has been deleted and replaced with the word -- poly(8*H*-cyclopenta[def]fluoren-4-one) --.

Claim 22, line 4, the word "4,8-dihydrocyclopenta[def]fluorene" has been deleted and replaced with the word -- 4,8-dihydrocyclopenta[def]fluorene --.

Claim 23, line 3, the word "poly(cyclopenta[def]fluoren-4,8-dione)" has been deleted and replaced with the word -- poly(cyclopenta[def]fluoren-4,8-dione) --.

Claim 23, lines 4-5, the word "4,8-dihydrocyclopenta[def]f-luorene" has been deleted and replaced with the word -- 4,8-dihydrocyclopenta[def]fluorene --.

Claim 24, line 3, the word "poly(benzo[b]fluoren-11-one)" has been deleted and replaced with the word -- poly(benzo[b]fluoren-11-one) --.

Claim 24, line 4, the word "11H-benzo[b]fluorene" has been deleted and replaced with the word -- 11*H*-benzo[b]fluorene --.

Claim 25, line 3, the word "poly(dibenzo[b,h]fluorene-12-one)" has been deleted and replaced with the word -- poly(dibenzo[b,h]fluorene-12-one) --.

Claim 25, line 4, the word "12H-benzo[b,h]fluorene" has been deleted and replaced with the word -- 12*H*-benzo[b,h]fluorene --.

Claim 26, line 3, the word "poly(indeno[1,2-b]fluorene-6,12-dione)" has been deleted and replaced with the word -- poly(indeno[1,2-*b*]fluorene-6,12-dione) --.

Claim 26, lines 4-5, the word "6,12-dihydro-indeno[1,2-b]f-luorene" has been deleted and replaced with the word -- 6,12-dihydro-indeno[1,2-*b*]fluorene --.

### ***REASONS FOR ALLOWANCE***

The following is an examiner's statement of reasons for allowance:

Claims **1-26** are allowable over the prior art of record because the prior art does not teach or suggest a method for production of a polymer having at least one unit that contains at least one cyclopentanone structure condensed with at least aromatic rings, the method comprising the steps of a first electrolysis, harvesting and a second electrolysis, esp., the step of a second electrolysis wherein an electric current is passed between two or more electrodes immersed in an electrolytic mixture comprising an ester, an electrolyte and one or more of the electrodes including the harvested polymer from the first electrolysis.

The prior art does not contain any language that teaches or suggests the above. *Rault-Berthelot et al.* does not teach a second electrolysis wherein an electric current is passed between two or more electrodes immersed in an electrolytic mixture comprising an ester, an electrolyte and one or more of the electrodes including the harvested polymer from the first electrolysis. *Rault-Berthelot et al.* teach propylene carbonate. Propylene carbonate is not an ester. Therefore, a person skilled in the art would not have been motivated to adopt the above conditions, and a prima facie case of obviousness cannot be established.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on

Statement of Reasons for Allowance.”

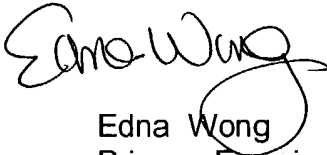
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edna Wong whose telephone number is (571) 272-1349. The examiner can normally be reached on Mon-Fri 7:30 am to 5:00 pm, alt. Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on (571) 272-1342. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Application/Control Number: 10/023,365  
Art Unit: 1753

Page 8

  
Edna Wong  
Primary Examiner  
Art Unit 1753

EW  
June 21, 2004